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(54) FORMATION OF MULTILAYER INTERCONNECTION PATTERN

(57)Abstract:

PURPOSE: To optimize the tapering angle of a through hole, to flatten a conductor layer, to simplify manufacturing steps and forming an air bridge structure, by temporarily using a resist layer having good leveling as an interlayer film, forming an upper conductor layer on a lower conductor layer, performing projection of ultraviolet rays and heat treatment for optimizing the tapering angle of a through hole that is formed in the resist layer.

CONSTITUTION: A light hardening photoresist layer 3 is directly formed on the entire upper surface of a lower conductor layer 2 on a substrate 1. Ultraviolet rays 7 are projected through a photomask 6. Patterning for through hole wherein the lower conductor layer 1 and the upper conductor layer are connected is performed on the photoresist layer 3. Then, the photoresist layer 3 is heated. Ultraviolet rays 8 are further projected. The tapering angle of the through hole part in the photoresist layer 3 is freely adjusted. Then, an upper conductor layer 4 is formed on the photoresist layer 3. Thereafter, a resist layer 5 for patterning the upper conductor layer is formed, and patterning is performed. Then, the unnecessary part of the upper conductor layer 4 is removed by etching. A patterned upper conductor layer 4' is formed, and an air bridge structure is formed.

